

## SEQUENCE LISTING

**(1) GENERAL INFORMATION:**

(i) ~~APPLICANT~~:

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(A) \ NAME: TRANSGENE SA

(B) STREET: 11 rue de Molsheim

(C) ~~CITY~~: Strasbourg

(E) COUNTRY: France

(F) POSTAL CODE: 67082

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(G) TELEPHONE: (33) 88 27 91 00

(H) ~~TELE~~FAX: (33) 88 27 91 11

(ii) TITLE OF INVENTION: Pharmaceutical composition for treating papillomavirus tumors and infection

(iii) NUMBER OF SEQUENCES: 16

**(iv) COMPUTER READABLE FORM:**

15

(A) MEDIUM TYPE: Tape

(B) COMPUTER: IBM PC compatible

(C) OPERATING SYSTEM: PC-DOS/MS-DOS

(D) SOFTWARE: PatentIn Release #1.0, Version #1.25  
(EPO)

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(2) INFORMATION FOR SEQ ID NO: 1:

**(i) SEQUENCE CHARACTERISTICS:**

(A) LENGTH: 36 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

25

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) **HYPOTHETICAL: NO**

(iii) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: Human papillomavirus

(B) STRAIN: HPV-16



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(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

35

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(A) LENGTH: 33 base pairs

(C) STRANDEDNESS: single

(ii) MOLECULE TYPE: \cDNA

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

33

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**(A) LENGTH: 32 base pairs**

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Vaccinia virus

(B) STRAIN: Modified Ankara

(C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG7637 (PCR zone III)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

GGGGGGGAAT TCAGTAACT TGACTAAATC TT

32

10 (2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: YES

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Vaccinia virus

(B) STRAIN: Modified Ankara

(C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG7638 (PCR zone III)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

25 GGGGGGGGAT CCGAGCTCAC CAGCCACCGA AAGAGCAAT

39

(2) INFORMATION FOR SEQ ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 base pairs

(B) TYPE: nucleic acid

GGGGGGGGGAT CCGAGCTCAC CAGCCACCGA AAGAGCAAT

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

5 (iii) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Vaccinia virus

(B) STRAIN: Modified Ankara

10 (C) INDIVIDUAL ISOLATE: synthetic oligonucleotide

oTG7635 (PCR zone III)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

GGGGGGGGGAT CCGGAAAGTT TTATAGGTAG TT

32

*Sub  
1/1  
Last*  
(2) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: YES

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Vaccinia virus

(B) STRAIN: Modified Ankara

25 (C) INDIVIDUAL ISOLATE: synthetic oligonucleotide

oTG7636 (PCR zone III)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

GGGGGGGAAT TCTTTGTATT TACGTGAACG

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- (A) LENGTH: 78 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

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(vi) ORIGINAL SOURCE:

- (C) ~~INDIVIDUAL ISOLATE: synthetic oligonucleotide~~  
oTG10451

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

CTTATACAGG GCGTACACTT TCCCTTCTCA ATCTCTCTCG AGTTGTATTT ATTTTCATTT 60

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TTTAAGTATA GAATAAAA

78

(2) INFORMATION FOR SEQ ID/NO: 10:

**(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH: 86 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: YES

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(vi) ORIGINAL SOURCE:

- (C) INDIVIDUAL ISOLATE: ~~synthetic oligonucleotide~~  
oTG10450

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

AGCTTTTAT TCTATACTTA AAAAATGAAA ATAAATACAA CTCGAGAGAG ATTGAGAAGG 60

GAAAGTGTAC GCCCTGTATA AGGTAC 86

(2) INFORMATION FOR SEQ ID NO: 11:

**(i) SEQUENCE CHARACTERISTICS:**

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**(A) LENGTH: 39 base pairs**

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) **TOPOLOGY: linear**

## (ii) MOLECULE TYPE: DNA (genomic)

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(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: Vaccinia virus

(B) STRAIN: \ Modified Ankara

(C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG7665 (PCR zone II)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

ATGGTACCGA ATTCCATCTA CCAATTCATC CAACAACAT 39

(2) INFORMATION FOR SEQ ID NO: 12:

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**(i) SEQUENCE CHARACTERISTICS:**

(A) LENGTH: 41 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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## (ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: YES

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Vaccinia virus
- (B) STRAIN: Modified Ankara
- (C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG7584 (PCR zone II)

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

GGCTGCAGGA TCCGAGCTCA TCATGACGTC CTCTGCAATG G

41

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Vaccinia virus
- (B) STRAIN: Modified Ankara
- (C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG7639 (PCR zone II)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

GGGGGGGGAT CCTGTGAATC ATCCATTCCA CT

32

(2) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)



(iii) ANTI-SENSE: YES

(A) ORGANISM: Vaccinia virus

(B) STRAIN: Modified Ankara

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

33

(i) SEQUENCE CHARACTERISTICS:

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(B) TYPE: nucleic acid

(C) **STRANDEDNESS:** single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) **HYPOTHETICAL: NO**

(iii) ANTI-SENSE: NO

**(vi) ORIGINAL SOURCE:**

(C) INDIVIDUAL ISOLATE: ~~synthetic oligonucleotide~~  
oTG10503

(xi) SEQUENCE DESCRIPTION: SEQ ID/NO: 15:

CTCAAGTCAG TGTTGAGATG ATGCTTTGAC AACTCGAGTT TATTTTCATT TTTTAAGTAT 60

**AGAATAAAA**

69

25 (2) INFORMATION FOR SEQ ID NO: 16:

**(i) SEQUENCE CHARACTERISTICS:**

(A) LENGTH: 77 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) **TOPOLOGY:** linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

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(iii) ~~ANTI-SENSE~~: YES

(vi) ORIGINAL SOURCE:

(C) INDIVIDUAL ISOLATE: synthetic oligonucleotide  
oTG10502

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

10 AGCTTTTAT TCTATACTTA AAAAATGAA ATAAACTCGA GTTGTCAAAG CATCATCTCA 60

ACACTGACTT GAGGTAC 77

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